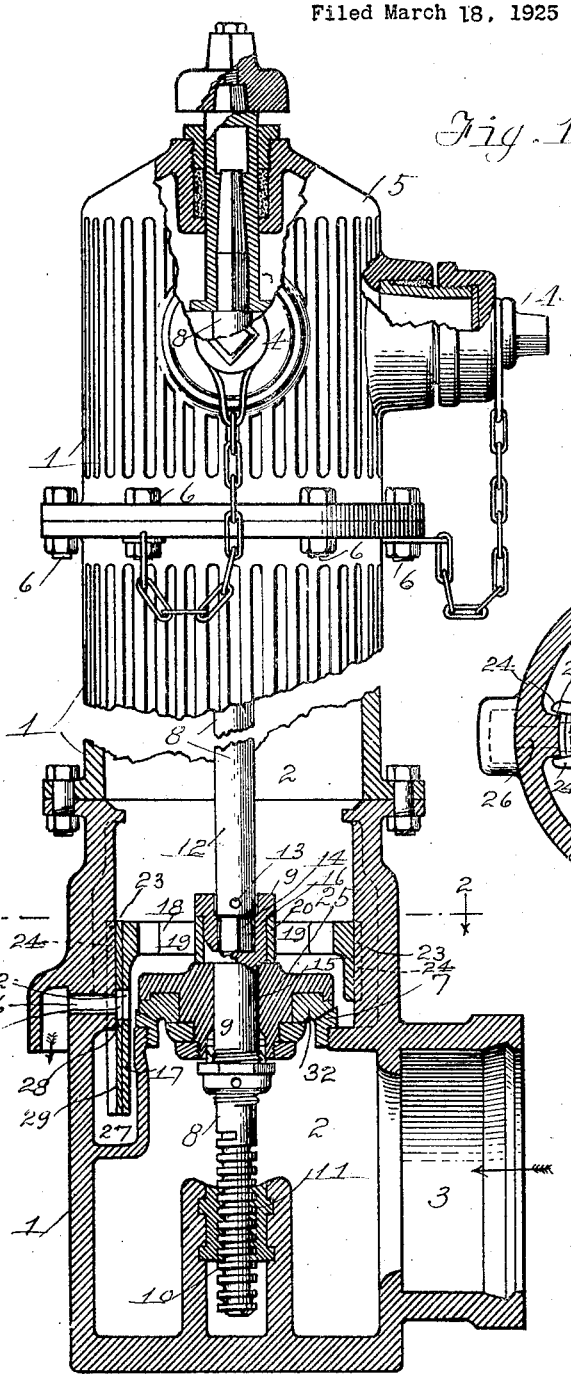
Nov. 10, 1925. 1,561,167

H. O. JOYNT

HYDRANT

Filed March 18, 1925

Fig. 1.



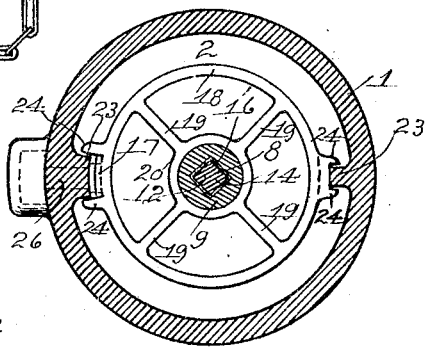


Fig. 2.

Witness:
H. E. Redding.

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UNITED STATES PATENT OFFICE.

HERBERT O. JOYNT, OF TRAVERSE CITY, MICHIGAN, ASSIGNOR TO TRAVERSE CITY IRON WORKS, OF TRAVERSE CITY, MICHIGAN, A CORPORATION OF MICHIGAN.

HYDRANT.

Application filed March 18, 1925. Serial No. 16,369.

To all whom it may concern:

Be it known that I, HERBERT O. JOYNT, a citizen of the United States, residing at Traverse City, in the county of Grand Traverse and State of Michigan, have invented new and useful Improvements in Hydrants, of which the following is a specification.

The present invention relates to hydrants; and its object is to provide, in a hydrant having a spillway opened when the hydrant valve is closed, certain improved parts and combination of parts hereinafter described and explained.

This object is attained by, and the invention finds preferable embodiment in, the structure hereinafter particularly described in the body of this specification and illustrated by the accompanying drawings, in which:

Figure 1 is a side view of a hydrant, its lower part being shown in diametrical section; and

Figure 2 is a transverse sectional view thereof taken on line 2—2 of Figure 1.

In the embodiment of the invention chosen for illustration by the drawings and for detailed description in the body of this specification, a hydrant is shown having the body 1 with a vertically-extending water passage 2 therethrough leading from the intake 3 (connected with a water main, not shown) to outlets or nozzles closed by screw plugs 4. In this illustrated construction, the hydrant's uppermost portion or cap 5, having these nozzles, is bolted at 6 to the portion below, so that, should this cap 5 or its nozzle become broken, it may be readily replaced with a new cap; and if it becomes desirable to turn the nozzle in another direction, this may be done by removing the bolts 6, turning the cap to desired position and rebolting it in place.

The flow of water through the passage 2 to the nozzle is controlled by a valve 25, having a seat 7 below it, this valve being mounted on a vertical valve stem designated generally 8 which, in the construction illustrated, comprises a lower portion 9 rotatable in said valve at 15 and having its lower end threaded at 10 into the stationary nut 11 adjacent the bottom of the hydrant, the valve stem comprising also the upper portion 12 connected to the lower portion 9 by a pin 13 and by its squared lower end 14 seated in a squared socket 16 in the valve stem's portion 9 slightly swingably laterally, by reason of said squared connection being somewhat loose as indicated in the views.

The body 1 has a spillway 26 through the wall thereof which spillway is opened and closed by a valve 17 carried by the circular member 18 having radial arms 19 mounted on the ring 20 surrounding the lower portion 9 of the valve stem and in which said valve stem is rotatable. The spillway valve 17 extends both above and below the spillway 26 in the open and closed positions of the valve 25, and has a vent 22 through which the water passes out through the spillway in the closed position of valve 25, this vent registering with the spillway when valve 25 is closed as seen in Figure 1; but when the valve 25 is opened the valve 17 is raised to close the spillway. A vertical guideway, or as shown a pair of diametrically opposite guideways 23 are formed in the interior of the body 1 with which slidably engage the guided members 24 of the circular member 18, in the opening and closing movements of both valves. As shown in Figure 1, the body 1 has a chamber 27 in one side thereof having an open top 28 in which the lower part of the spillway valve 17 projects and moves. This chamber prevents water from flowing into the bottom of the hydrant from above the closed main valve 25. It will be seen that inasmuch as the water passes to the spillway by the vent 22 through the valve 17, instead of passing over the top of said valve or under its bottom, the packing 29 (of leather or the like) carried by this valve and having a registering vent 30 therethrough, is not liable to be bent or broken in the valve's movement as it would be if the lower or upper end of this valve had to pass upwardly and downwardly over the spillway thus contacting the upper or lower portion of such packing with the spillway opening. It will be seen that the spillway is below the level of the upper surface of the valve 25 in its closed position, so that all the water in the passage 2 above said closed valve may drain out. The valve stem being turned, as by a handle or wrench applied to the squared upper end of its upper portion 12, the valves 25 and 17 will be moved up or down together, and in such relation that the spillway valve 17 is closed when the main valve 25 is opened and is

opened when the main valve is closed, the valve stem rising in the opening movement of the main valve thus providing an indication of the degree to which said valve is open.

It will be seen that, when the cap 5 is removed, both valves 25 and 17 may be removed together from the body 1 and by the same unscrewing movement of the valve stem from engagement with the nut 11, the guided members 24 of the ring 18 sliding in such movement along the guideways 23, the valve seat 7 below the valve 25, remaining in place; it will also be seen that the slightly lateral swinging movement of the valve stem's upper portion 12 relatively to its lower portion 9 and to the two valves in their guided movement in the guideway, renders the operation of said valves less liable to binding or sticking in the guideway, where the upper end of the valve stem is journalled in the cap 5 as shown.

A suitable packing of leather or the like for the valve 25 is indicated at 32.

I claim:

1. In a hydrant: a body having a vertically-extending water passage, a spillway through its side wall, a nut adjacent its bottom, a valve seat and a vertically-extending guideway; a vertically-extending rotatable valve stem in said passage, threaded into the nut; a valve carried by the valve stem and adapted to me moved by its turning movement into and out of seating position on the valve seat to close and open said passage; a valve carried in connection with the first-mentioned valve and having a guided movement in the guideway to open and close the spillway; the valve stem and both valves being separable from the other parts herein mentioned and removable together in the guideway's operative direction therefrom.

2. In a hydrant: a body having a vertically-extending water passage, a spillway through its side wall, a lateral chamber having a closed bottom below the spillway, a valve seat and a vertically-extending guideway; a valve above the valve seat, vertically movable out of and into seating position thereon; a valve carried in connection with the first-mentioned valve, extending below the same and into said chamber and having a guided movement in the guideway, the second mentioned valve having a vent therethrough and being movable with the first mentioned valve to a position wherein said vent registers with the spillway in the first mentioned valve's closed position.

3. In a hydrant: a body having a vertically-extending water passage, a spillway through its side wall and a valve seat; a valve vertically movable out of and into seating position on the valve seat; a valve having a vent therethrough, carried in connection with the first-mentioned valve to a position wherein said vent registers with the spillway in the first-mentioned valve's closed position.

4. In a hydrant: a body having a vertically-extending water passage, a spillway through its side wall, a nut adjacent its bottom and a valve seat; a vertically-extending rotatable valve stem in said passage having a portion threaded into the nut and another portion laterally-swingably connected to the valve hereinafter first-mentioned; a valve carried by the first-mentioned portion of the valve stem and adapted to be moved by its turning movement into and out of seating position on the valve seat to close and open said passage; a valve carried in connection with the first-mentioned valve to open and close the spillway.

In testimony whereof I have hereunto set my hand at Grand Rapids, Michigan, this 10th day of March, 1925.

HERBERT O. JOYNT.